

Amendments to the Claims

The listing of claims will replace the previous version, and the listing of claims:

Listing of Claims

1. (Currently amended) A process of producing a stent comprising:
 preparing a tubular stent matrix of which diameter is
 extendable in a diametric direction, and
 forming flexible solid polymer layers coated on said stent
 matrix, wherein said polymer layers are closely attached to and to
 cover an entire surface of the stent matrix, and said polymer
 layers include
 perforating a plurality of fine through pores formed, after
 formation of the polymer layers, at portions where the stent matrix
 does not exist.
2. (Currently amended) A process of producing a stent as claimed in
claim 1, wherein said plurality of fine through pores is formed in
the polymer layers by laser ~~stent matrix is a mesh metallic member.~~
3. (Currently amended) A process of producing a stent as claimed in
claim 2, wherein said mesh metallic member is a mesh metallic
member made of cobalt-chromium-nickel-iron alloy.
4. (Currently amended) A process of producing a stent as claimed in
claim 2, wherein said mesh metallic member is made of nickel-
titanium alloy.
5. (Canceled)

6. (Currently amended) A process of producing a stent as claimed in claim 1, wherein said fine pores are formed to be spaced from each other at substantially equal intervals.
7. (Currently amended) A process of producing a stent as claimed in claim 1, wherein said fine pores are formed to be spaced from each other at intervals of from 51 to 10000 μm and each pore has a diameter of from 5 to 500 μm .
8. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is made of segmented polyurethane.
9. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is made of a polymer of polyolefin series.
10. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is a polymer film of silicone series.
11. (Currently amended) A process of producing a stent as claimed in claim 1, wherein the thickness of each said polymer layer is from 10 to 100 μm .
12. (Currently amended) A process of producing a stent as claimed in claim 1, wherein each said polymer layer is coated with a biodegradable polymer.
13. (Currently amended) A process of producing a stent as claimed in claim 12, wherein said biodegradable polymer contains a drug.

14. (Currently amended) A process of producing a stent as claimed in claim 13, wherein said drug is selected from a group consisting of heparin, low-molecular heparin, hirudin, argatroban, formacolin, vapiprost, prostamoline, prostakilin homolog, dextran, D-phe-pro-arg chloromethyl ketone, dipyridamole, platelet receptor antagonist of glycoprotein, recombinant hirudin, thrombin inhibitor, vascular heptyne, angiotensin-converting enzyme inhibitor, steroid, fibrocyte growth factor antagonist, fish oil, omega 3 fatty acid, histamine, antagonist, HMG-CoA reductase inhibitor, seramin, serotonin blocker, thioprotease inhibitor, triazolopyrimidine, interferon, vascular endothelial growth factor (VEGF), rapamycin, FK506, mevalotin, and fuluvastatin.

15. (Currently amended) A process of producing a stent having a tubular stent matrix of which diameter is extendable and flexible polymer films which are attached to both an inner periphery and an outer periphery of said stent matrix and have a plurality of fine pores formed therein, said process comprising:

- a step of forming a polymer film for an outer layer by rotating a mold having a cylindrical inner bore about its axis and also supplying a liquid resin material into the mold;

- a step of supplying said stent matrix into said mold;

- a step of forming a polymer film for an inner layer by rotating the mold about its axis and also supplying a liquid resin material into the mold;

- a step of releasing the stent matrix with the films from the mold[[],]; and

- a step of perforating a plurality of the fine through pores at portions where the stent matrix does not exist.

16. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the polymer film for the outer layer is made of a base polymer only.

17. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the step of forming a polymer film for the outer layer comprises forming a first polymer film for the outer layer made of a biodegradable polymer and, after that, forming a second polymer film for the outer layer made of a base polymer on the inner side of the first polymer film.

18. (Previously presented) A process of producing a stent as claimed in claim 15, wherein said polymer film for the inner layer is made only of a base polymer.

19. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the step of forming a polymer film for the inner layer comprises forming a first polymer film for the inner layer made of a base polymer and, after that, forming a second polymer film for the inner layer made of a biodegradable polymer on the inner side of the first polymer film.

20. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the polymer film for the outer layer and the polymer film for the inner layer are made of a base polymer only, and

after removal of the mold, the stent matrix with the outer and inner films is impregnated into a liquid resin material of biodegradable polymer so as to form a coating layer of the biodegradable polymer.

21. (Previously presented) A process of producing a stent as claimed in claim 16, wherein the base polymer is a segmented polyurethane polymer.

22. (Canceled)

23. (Previously presented) A process of producing a stent as claimed in claim 15, wherein perforation is conducted by laser.

24. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the fine pores are formed at substantially equal intervals.

25. (Currently amended) A process of producing a stent ~~having a tubular stent matrix of which diameter is extendable and flexible polymer films which are attached to both an inner periphery and an outer periphery of said stent matrix and have a plurality of fine pores formed therein, said process comprising:~~ according to claim 1, wherein said forming the solid polymer layers comprises

a step of forming the polymer film by impregnating a mandrel into a liquid resin material for forming the polymer film and pulling up the mandrel; and

a step of equalizing the thickness of the polymer film by pulling up the mandrel in a vertical direction and controlling a pulling-up speed; ~~and~~

~~— a step of perforating a plurality of fine through pores at portions where the stent matrix does not exist.~~

26. (Original) A process of producing a stent as claimed in claim 25, wherein the pulling-up speed is gradually lowered.

27. (Previously presented) A process of producing a stent as claimed in claim 25, wherein the polymer film is made of a base resin material only.

28. (Previously presented) A process of producing a stent as claimed in claim 25, wherein the polymer film comprises a base layer made of a base resin material and a layer of a biodegradable polymer covering the surface of the base layer.

29. (Previously presented) A process of producing a stent as claimed in claim 27, wherein the liquid base resin material is a solution of segmented polyurethane polymer.

30. (Previously presented) A process of producing a stent as claimed in claim 25, wherein said fine pores are formed after the polymer film is formed.

31. (Original) A process of producing a stent as claimed in claim 30, wherein said fine pores are formed by laser machining.

32. (Currently amended) A process of producing a stent ~~having a tubular stent matrix of which diameter is extendable and flexible polymer films which are attached to both an inner periphery and an outer periphery of said stent matrix and have a plurality of fine pores formed therein, said process comprising:~~ according to claim 1, wherein said forming the solid polymer layers comprises

a step of inserting a polymer film for an inner layer into the stent matrix and overlaying a polymer film for an outer layer onto the stent matrix; and

a step of welding the respective polymer films to the stent matrix; ~~and~~

~~— a step of perforating a plurality of fine through pores at portions where the stent matrix does not exist.~~

33. (Original) A process of producing a stent as claimed in claim 32, wherein the welding is conducted by heating the respective polymer films.

34. (Original) A process of producing a stent as claimed in claim 32, wherein the respective polymer films are welded to the stent matrix by heating the stent matrix with high-frequency dielectric heating.

35. (Original) A process of producing a stent as claimed in claim 32, wherein the respective polymer films are welded to the stent matrix by heating the stent matrix with Joule heat.

36. (Original) A process of producing a stent as claimed in claim 32, wherein the respective polymer films and the stent matrix are welded by supersonic vibration.

37. (Original) A process of producing a stent as claimed in claim 32, wherein the polymer films are welded to the stent matrix by hot isostatic pressing.

38. (Original) A process of producing a stent as claimed in claim 32, wherein the polymer films are welded to the stent matrix by using a heat shrinkable film.

39. (Previously presented) A process of producing a stent as claimed in claim 32, wherein the respective polymer films and the stent matrix are pressurized from both sides during the welding.

40. (Previously presented) A process of producing a stent as claimed in claim 39, wherein pressurization is conducted by inserting a mandrel to the polymer film for the inner layer and applying pressures to the polymer film for the outer layer in a radial direction toward a middle line.
41. (Canceled)
42. (Previously presented) A process of producing a stent as claimed in claim 32, wherein perforation is conducted by laser.
43. (Previously presented) A process of producing a stent as claimed in claim 32, wherein the fine pores are formed at substantially equal intervals.
44. (Previously presented) A process of producing a stent as claimed in claim 32, wherein the polymer films are tubular.
45. (Previously presented) A process of producing a stent as claimed in claim 32, wherein said polymer films are coated with a biodegradable polymer.
46. (Previously presented) A process of producing a stent as claimed in claim 24, wherein said fine pores are spaced from each other at intervals of from 51 to 10000 μm and each pore has a diameter of from 5 to 500 μm .
47. (Previously presented) A process of producing a stent as claimed in claim 15, wherein the thickness of said polymer films is from 10 to 100 μm .

48. (Previously presented) A process of producing a stent as claimed in claim 15, wherein said stent matrix is a mesh metallic member.

49. (Previously presented) A process of producing a stent as claimed in claim 19, wherein said biodegradable polymer contains a drug.

50. (Original) A process of producing a stent as claimed in claim 49, wherein said drug is selected from a group consisting of heparin, low-molecular heparin, hirudin, argatroban, formacolin, vapiprost, prostamoline, prostakilin homolog, dextran, D-phe-pro-arg chloromethyl ketone, dipyridamole, platelet receptor antagonist of glycoprotein, recombinant hirudin, thrombin inhibitor, vascular heptyne, angiotensin-converting enzyme inhibitor, steroid, fibrocyte growth factor antagonist, fish oil, omega 3 fatty acid, histamine, antagonist, HMG-CoA reductase inhibitor, seramin, serotonin blocker, thioprotease inhibitor, triazolopyrimidine, interferon, vascular endothelial growth factor (VEGF), rapamycin, FK506, mevalotin, and fuluvastatin.

51-78. (Canceled)